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Effective 10/01/2003, Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

 Complete if Known

 Application Number
 09/806123-Conf. #7064

 Filing Date
 May 18, 2001

 First Named Inventor
 Ursula Ziegler

 Examiner Name
 M. R. Jackson

 Art Unit
 1773

 Attorney Docket No.
 05587-00312-US

| TOTAL AMOUNT OF PAYMENT (\$) 330.00 | | | Attorney Docket No. 05587-00312-US | | | | 05587-00312-US | |
|-------------------------------------------------------------------------------|---------------|---------------------------|------------------------------------|-------------|-------------|------------------------|--------------------------------------------------------------|----------|
| METHOD OF PAYMENT (check all that apply) | | | FEE CALCULATION (continued) | | | | | |
| Check Credit Money Other None | | | 3. ADDITIONAL FEES | | | | | |
| X Deposit Account: | | | | | | | | |
| Deposit | | Large Entity Small Entity | | | | | | |
| Account Number 03-2775 | | Fee Code | Fee (\$) | Fee Code | Fee (\$) | | Fee Description | Fee Paid |
| Deposit Account Connolly Bove Lodge & Hut | ZIIP 1 | 1051 | 130 | 2051 | 65 | Surcharge | e - late filing fee or oath | |
| Name The Director is authorized to: (check all that apply | 1 | 1052 | 50 | 2052 | 25 | Surcharge sheet. | e - late provisional filing fee or cover | |
| | | 1052 | 130 | 1053 | 420 | | 1-h 10 1 | |
| Charge fee(s) indicated below X Credit | | 1053 | 1 | | | - | ish specification | |
| X Charge any additional fee(s) or any underpayme | ent of fee(s) | 1812 | 2,520 | 1812 | 2,520 | _ | request for ex parte reexamination | |
| Charge fee(s) indicated below, except for the fi | ling fee | 1804 | 920* | 1804 | 920* | Examiner | ng publication of SIR prior to action | |
| to the above-identified deposit account. | - | 805 | 1,840* | 1805 | 1,840° | Requestir Examiner | ng publication of SIR after action | |
| FEE CALCULATION | 1 | 1251 | 110 | 2251 | 55 | Extension | for reply within first month | |
| 1. BASIC FILING FEE | | 1252 | 420 | 2252 | 210 | | for reply within second month | |
| Large Entity Small Entity | | 1253 | 950 | 2253 | 475 | | for reply within third month | \vdash |
| Fee Fee Fee Fee Fee Description | n Fee Paid 1 | 1254 | 1,480 | 2254 | 740 | Extension | for reply within fourth month | |
| 1001 770 2001 385 Utility filing fee | 1 | 1255 | 2,010 | 2255 | 1,005 | Extension | for reply within fifth month | |
| 1002 340 2002 170 Design filing fee | 1 | 1401 | 330 | 2401 | 165 | Notice of | Appeal | |
| 1003 530 2003 265 Plant filing fee | | 1402 | 330 | 2402 | 165 | • | rief in support of an appeal | 330.00 |
| 1004 770 2004 385 Reissue filing fee | | 1403 | 290 | 2403 | 145 | | for oral hearing | |
| 1005 160 2005 80 Provisional filing | | 1451 | 1,510 | 1451 | | | institute a public use proceeding | |
| SUBTOTAL (1) (\$) 0.00 | | 1452 | 110 | 2452 | 55 | | revive – unavoidable | <u> </u> |
| | | 1453 | 1,330 | 2453 | 665 | | revive - unintentional | |
| 2. EXTRA CLAIM FEES FOR UTILITY A | | 1501 | 1,330 | 2501 | 665 | _ | ue fee (or reissue) | |
| Claims below | Fee Paid ' | 1502 | 480 | 2502 | 240 | Design is: | | |
| Total Claims20** = x | [| 1503 | 640 | 2503 | 320 | Plant issu | | |
| Independent -3** = x | _]=[]1 | 1460 | 130 | 1460 | 130 | Petitions | to the Commissioner | |
| Multiple Dependent |]= 1 | 1807 | 50 | 1807 | 50 | Processin | ng fee under 37 CFR 1.17(q) | |
| Large Entity Small Entity | 1 | 1806 | 180 | 1806 | 180 | Submissi | on of Information Disclosure Stmt | |
| Fee Fee Fee Code (\$) Fee Description | ription 8 | 3021 | 40 | 8021 | 40 | | g each patent assignment per (times number of properties) | |
| 1202 18 2202 9 Claims in excess of 2 | 1 ' | 1809 | 770 | 2809 | 385 | Filing a se (37 CFR | ubmission after final rejection 1.129(a)) | |
| 1201 86 2201 43 Independent claims in 1203 290 2203 145 Multiple dependent cl | 1. | 1810 | 770 | 2810 | 385 | For each | additional invention to be (37CFR 1.129(b)) | |
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| **or number previously paid, if greater, For Reissues, see above | | | | | | | | |

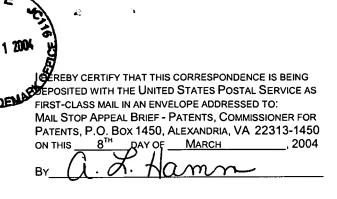
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|-------------------|-----------------|----|--------------------------------------|--------|-----------|------------------|
| Name (Print/Type) | Richard M. Beck | | Registration No. (Attorney/Agent) | 22,580 | Telephone | (302) 658-9141 |
| Signature | Ruled | MR | al | | Date | March 8, 2004 |
| | 7 | | • | | | |

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: March 8, 2004

Signature:

(Amy L. Hamm)



1998/G 026 (5587*312)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

URSULA ZIEGLER ET AL

SERIAL NO: 09/806,123 : ART UNIT: 1773

FILED: MAY 18, 2001 : EXAMINER: M. R. JACKSON

FOR: COMPOSITE ARTICLE MADE FROM:

POLYACETAL AND FROM

STYRENE-OLEFIN ELASTOMERS

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

APPEAL BRIEF

REAL PARTY IN INTEREST

The real party in interest is Ticona GmbH by virtue of an assignment duly recorded in the Patent and Trademark Office on May 17, 2001, at Reel 011813 Frame 0105 (3 pages).

RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

03/12/2004 AWONDAF1 00000025 032775 09806123

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STATUS OF CLAIMS

Claims 1-12 are pending in this application. Claims 1-12 stand rejected. No claims have been allowed, and the rejected claims constitute the claims on appeal.

STATUS OF AMENDMENTS

No response was filed to the Final Office Action dated October 24, 2003. The amendments submitted prior to the Final Office Action have been entered, and a copy of claims 1-12 is attached as an appendix to the Appeal Brief.

SUMMARY OF THE INVENTION

The invention relates to a composite article made from polyacetal and from styreneolefin elastomers, and also to a process for producing the same. By modifying the styreneolefin elastomer with non-olefinic thermoplastic material, an adhesive bond is obtained between polyacetal and styrene-olefin elastomers. (Specification page 1, lines 6-10).

Surprisingly, it has been found that styrene-olefin elastomers which have been modified by adding non-olefinic thermoplastic material enter into an adhesive bonding with polyacetal. In contrast, styrene-olefin elastomers modified with olefinic thermoplastic material show no lasting adhesion to polyacetal. (Specification page 3, line 37 through page 4, line 3).

The invention provides a composite article made from polyacetal and from at least one modified styrene-olefin elastomer, which comprises from 15 to 70% by weight, based on the weight of the modified styrene-olefin elastomer, of non-olefinic thermoplastic material, and also a process for producing the same, where a molding made from

polyacetal is initially formed and onto which is then molded a coating or at least one molding made from the modified styrene-olefin elastomer. An adhesive bond is formed between the polyacetal and the modified styrene-olefin elastomer. (Specification page 4, lines 5-11).

The modified styrene-olefin elastomers used according to the invention are compositions based on thermoplastic styrene-olefin elastomers (TPE-S). These compositions generally comprise from 20 to 85% by weight, preferably from 35 to 70% by weight, of maleic anhydride-functionalized and/or non-functionalized high-molecular-weight tri-block copolymers which have been built up from rigid end-blocks of styrene and from flexible middle blocks of olefin, and from 15 to 70% by weight, preferably from 20 to 50% by weight, of non-olefinic thermoplastic material. Based on the styrene-olefin block copolymer content, the composition comprises, in addition, at least 5 parts by weight respectively and not more than 200 parts by weight respectively by lubricating plasticizer and/or inorganic filler per 100 parts by weight of styrene-olefin block copolymer. (Specification page 6, lines 10-20).

The TPE-S compositions according to the invention have a Shore A hardness in the range from 30 to 90, preferably from 40 to 80. (Specification page 6, lines 35-36).

THE ISSUES

The issues in this appeal include the following:

- 1. Whether or not claims 1-9 are properly rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellant regards as the invention through the recitation in claim 1, line 7, of the limitation "high-molecular weight styrene-olefin block copolymer";
- 2. Whether or not claims 1-9 are patentable under 35 USC §103(a) over EP O 837 097; and
- 3. Whether or not claims 10-12 are patentable under 35 USC §103(a) over DE 44 34 656.

GROUPING OF CLAIMS

For purposes of this appeal each of the rejected claims should be separately considered, and arguments in support of patentability are submitted below.

ARGUMENT

In support of patentability, appellant submits the following with respect to the rejection of claims 1-9 under 35 USC §112. Appellant respectfully disagrees with the objection to the term "high molecular weight" particularly because the specification identifies EP-A-710703 and EP-A-699519 at page 8, lines 22-23, and each of these disclosures has been incorporated by reference. On page 3, lines 49-50 of EP-A-699519, for example, the apparent molecular weight of the total block polymer is defined as being in the range of from 20, 000 to 350,000. Accordingly, it is submitted that the specification

does in fact provide a reasonable standard for ascertaining the meaning of the recited term. Moreover, the term is a common one well known to persons of ordinary skill in the art.

Appellant respectfully submits that claims 1-12 define an invention which is neither disclosed nor suggested by the prior art taken alone or in combination with one another. Specifically, claims 1-9 are not rendered obvious by EP-A-837097 ("EP '097") and claims 10-12 are not rendered obvious by DE-C-4434656 ("DE '656"), for the reasons discussed below.

EP '097 describes specific block copolymers and their use for improving the compatibility of polymer blends and the adhesion of non-polar thermoplastic elastomers (TPE e.g. SEBS) onto polar engineering resins, where a number of materials are mentioned including polyacetals. The block copolymer used as a compatibilizer contains (a) a chemically modified polyolefin, (b) a thermoplastic polyurethane, copolyester or copolyamide, and (c) a coupling agent.

A few examples illustrate the improved adhesion of a thermoplastic elastomer (PP/EP DM DVA) blended with the block copolymer compatibilizer (page 12, table V) onto an engineering resin, e.g. ABS. where sheets of both materials have been pressed together in a hot press (page 9, lines 27-29). Specific examples with polyacetals are not mentioned.

According to the teaching of EP '097 it is necessary to apply the additional block copolymer to achieve the improved compatibility or adhesion. In contrast thereto according

to the present invention such complicated block copolymers are not necessary but merely a compound comprising SEBS and a non-olefinic thermoplastic elastomer. In particular the SEBS-compounds used in the present invention do not comprise a modified polyolefin.

In summary EP '097 differs from the claimed invention herein because a composite article made from polyacetals and from a specific SEBS compound is neither described nor suggested.

DE '656 describes moldings produced by multicomponent injection molding from thermoplastics and a sound-deadening sheath made from thermoplastic elastomers. A wide variety of materials is given both for the thermoplastic elastomers and for the thermoplastics which can be used, and these include styrene-olefin elastomers and POM.

However, in contrast to the invention defined in the present claims, the bond in the DE '656 moldings is produced mechanically by interlocks (see 24 in Figure 1; column 3, lines 61-68). Nowhere is mentioned that the bond between the hard and the soft component is due to the composition of the elastomer A.

The DE '656 publication fails to provide any specific information for using these particular materials together. Also these are not stated advantages of a combination of this type.

In summary, in view of EP '097 and DE '656 no teaching or suggestion can be found which makes the present invention obvious to someone skilled in the art.

CONCLUSION

In view of the above argument, it is submitted that claims 1-12 are indeed patentable over the prior art, and it is respectfully requested that the rejection of these claims be reversed.

Respectfully submitted,

CONNOLLY BOVE LODGE & HUTZ LLP

Richard M. Beck Reg. No. 22,580

Telephone: 302 658-9141

RMB/alh/309979

Attachment: Appendix

APPENDIX

CLAIMS ON APPEAL Application Serial No. 09/806,123

Filed: May 18, 2001

hardness of from 30 to 90.

Claim 1: A composite article made from polyacetal and from at least one modified styrene-olefin elastomer, formed by a polyacetal molding which has to some extent or completely been coated with the modified styrene-olefin elastomer, or to which one or more moldings made from the modified styrene-olefin elastomer have been directly molded-on, where the modified styrene-olefin elastomer is a composition which comprises from 20 to 85% by weight of functionalized and/or non-functionalized high-molecular-weight styrene-olefin block copolymer, built up from rigid end-blocks of styrene and from flexible middle blocks of olefin, and from 15 to 70% by weight of non-olefinic thermoplastic material, and also at least 5 parts by weight respectively and not more than 200 parts by weight respectively of lubricating plasticizer and/or inorganic filler per 100 parts by weight of styrene-olefin block copolymer, and wherein the modified styrene-olefin has a Shore A

Claim 2: A composite article as claimed in claim 1, wherein the polyacetal and the modified styrene-olefin elastomer have been adhesively bonded to one another.

Claim 3: A composite article as claimed in claim 1, wherein the strength of the bond between the polyacetal and the modified styrene-olefin elastomer is at least 0.5 N/mm².

Claim 4: A composite article as claimed in claim 1, wherein the polyacetal used comprises a polyoxymethylene copolymer.

Claim 5: A composite article as claimed in claim 1, wherein the non-olefinic thermoplastic material has been selected from the class consisting of thermoplastic polyesterurethane elastomers, thermoplastic polyetherurethane elastomers, thermoplastic polyesters, thermoplastic polyesterester elastomers, thermoplastic polyetherester elastomers, thermoplastic polyetheramide elastomers, thermoplastic polyamides, thermoplastic polycarbonates, thermoplastic polyacrylates, acrylate rubbers and styrene-acrylonitrile-acrylate rubbers (ASA).

Claim 6: A composite article as claimed in claim 1, in the form of a molding made from polyacetal, which has been entirely or to some extent coated with the modified styrene-olefin elastomer.

Claim 7: A composite article as claimed in claim 1, in the form of a molding made from polyacetal, to which at least one other molding made from the modified styrene-olefin elastomer has been molded-on.

Claim 8: A composite article as claimed in claim 1, which has been produced by multicomponent injection molding.

Claim 9: A composite article as claimed in claim 8, wherein the molding is firstly molded from polyacetal and then a coating or a molding made from the modified styrene-olefin elastomer is injected onto the polyacetal molding.

Claim 10: A process for producing a composite article made from polyacetal and from at least one modified styrene-olefin elastomer, where the modified styrene-olefin

elastomer comprises from 15 to 70% by weight of non-olefinic thermoplastic material, and where a molding is firstly molded from polyacetal, onto which is then molded a coating or at least one molding made from the modified styrene-olefin elastomer, giving an adhesive bond between the polyacetal and the modified styrene-olefin elastomer.

Claim 11: The process as claimed in claim 10, which is a multicomponent injection-molding process carried out in a mold, where the molding made from polyacetal has been preheated to a temperature in the range from 80°C to just below its melting point prior to molding-on of the modified styrene-olefin elastomer, the melt temperature of the modified styrene-olefin elastomer is from 200 to 270°C during molding onto the molding made from polyacetal, and the temperature control of the mold has been set to a temperature in the range from 20 to 140°C.

Claim 12: The process as claimed in claim 11, wherein the molding made from polyacetal has been preheated to a temperature in the range from 100 to 160°C, the melt temperature of the modified styrene-olefin elastomer is from 220 to 260°C, and the temperature control of the mold has been set to a temperature in the range from 30 to 80°C.